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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT H. WOLLENBERG

Appeal 2009-010400
Application 10/779,421
Technology Center 1600

Decided: March 29, 2010

Before TONI R. SCHEINER, FRANCISCO C. PRATS, and STEPHEN WALSH, *Administrative Patent Judges*.

WALSH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) involving claims to a method for screening lubricating oil for compatibility with elastomers. The Patent Examiner rejected the claims for obviousness. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

STATEMENT OF THE CASE

Claims 1-3, 5-9, 11-21 and 33-35, are on appeal.[1] Claims 1 and 33 are representative and read as follows:

1. A high throughput method for screening lubricating oil composition samples for compatibility with elastomers, under program control, comprising the steps of:

   (a) providing a plurality of different lubricating oil composition samples, each sample comprising (i) a major amount of at least one base oil of lubricating viscosity and (ii) a minor amount of at least one lubricating oil additive;
   (b) providing at least one elastomer;
   (c) measuring the elastomer compatibility of each sample to provide elastomer compatibility data for each sample; and,
   (d) outputting the results of step (c).

33. A combinatorial lubricating oil composition library comprising lubricating oil composition elastomer compatibility data stored on a programmed controller for a plurality of different lubricating oil compositions comprising (a) a major amount of a base oil of lubricating viscosity and (b) at least one lubricating oil additive.

The Examiner rejected the claims as follows:

- claims 1-3, 5-9, 15, 16 and 21 under 35 U.S.C. § 103(a) as unpatentable over Francisco[2] and Chaffee;[3] and
- claims 1-3, 5-9, 11-14, 17-21 and 33-35 under 35 U.S.C. § 103(a) as unpatentable over Francisco and Kolosov.[4]

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[1] Claims 4 and 10 are pending but not rejected.
[2] U.S. Patent No. 5,308,522, issued to Manuel A. Francisco et al., May 3, 1994.
[3] U.S. Patent No. 4,774,281, issued to Roger G. Chaffee et al., Sep. 27, 1988.

Claims 2, 3, 5-9 and 11-21 have not been argued separately and therefore stand or fall with claim 1 as grouped in the separate rejections. Claims 34 and 35 have not been argued separately and therefore stand or fall with claim 33. 37 C.F.R. § 41.37(c)(1)(vii).

OBVIOUSNESS

The Issue

The Examiner's position is Francisco taught testing elastomers with a base oil and an oil additive, and that data concerning the compatiblility of the elastomer was output as presented in Francisco's Table 2. (Ans. 4.) The Examiner found that Francisco's method differed from that in claims 15 and 16 because Francisco did not teach thermal conditioning of the elastomer as recited in those claims. (*Id.*) The Examiner found that Chaffee taught that thermal conditioning provided an improved compression set for elastomer testing, and concluded that it would have been obvious to improve Francisco's method with Chaffee's thermal conditioning. (*Id.* at 5.)

The Examiner found that Francisco did not teach sample sizes no more than 10 mL, a robotic assembly, control by a computer, storing data, or using data for further calculations. (*Id.* at 6.) Kolosov taught those features in an analytical system. (*Id.*) The Examiner found that a person of ordinary skill in the art would have been motivated to use Kolosov's computer controlled robot with Francisco's elastomer testing protocol "because of the need to reduce time in analyzing samples and it would [have been] especially attractive to rapidly test a plurality of samples on a common

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[4] Patent Application Publication No. US 2004/0123650 A1, by Oleg Kolosov et al., published Jul. 1, 2004.

substrate, as noted by Kolosov et al in paragraph 0005." (*Id.*) The Examiner found that Kolosov taught using the robot for rheological studies, e.g. viscosity or elasticity. (*Id.*) The Examiner also found that because "a library can have as few as two members, the composition of two different additives (I and II) per Francisco et al read[s] on claim 33." (*Id.* at 5.)

Appellant contends that the Examiner "refused to recognize that the high throughput method . . . is conducted under program control, i.e., automated." (App. Br. 5.) Appellant argues that the preamble terms "high throughput" and "program control" should receive patentable weight. (*Id.* at 5-9.) According to Appellant, Chaffee does not cure Francisco's deficiencies, and combining the two "would not even arrive at the claimed high throughput method conducted under program control. In contrast, one would simply arrive at individually testing the silicone rubber compositions of Chaffee with the lubricant composition of Francisco et al. containing (a) a major amount of a lubricating oil basestock and (b) a minor amount of a benzotriazole." (*Id.* at 12.)

Appellant contends that Kolosov also does not cure Francisco's deficiencies. (*Id.* at 13.) According to Appellant, the Examiner "fails to recognize that the primary goal of Kolosov et al is to screen or test most any *flowable* material," and "[n]othing in Kolosov et al. would therefore lead one skilled in the art to screen elastomers." (*Id.* at 14.) Regarding claim 33, Appellant contends that "nothing in Kolosov et al. would lead one skilled in the art to look to the method for screening or testing most any flowable material for rheological properties disclosed therein to modify the disclosure of Francisco et al. of reporting the elastomer seal stability measurements in

Table 2 manual . . . and arrive at the presently recited combinatorial library." (*Id.* at 15.)

The issues with respect to this appeal are:

did the rejection over Francisco and Chaffee articulate a reason supported by evidence to automate Francisco's manual process; and

did the rejection over Francisco and Kolosov articulate a reason supported by evidence to automate Francisco's manual process?

Findings of Fact

1. The Specification states: "[t]he expression 'high throughput' as used herein shall be understood to mean that a relatively large number of different lubricating oil compositions can be rapidly prepared and analyzed." (Spec. 6:12-15.)
2. The Specification states: "[t]he expression 'program control' as used herein shall be understood to mean the equipment used herein in providing the plurality of lubricating oil compositions is automated and controlled by a microprocessor or other computer control device." (*Id.* at 7:10-12.)
3. Francisco described "Stress Activated High Load Additives For Lubricant Compositions." (Francisco, Title.)
4. Francisco's compositions comprised a major amount of a lubricating oil basestock and a minor amount of a benzotriazole additive having load carrying properties. (*Id.* at col. 1, ll. 35-57.)
5. Francisco described testing two lubricating oil composition samples containing different benzotriazoles for elastomer seal compatibility. (*Id.* at col. 6, ll. 30-68, "Example 3.")

6. In Example 3, the silicone elastomer compatibility test was conducted by measuring the volume and tensile strength of a silicone elastomer specimen before and after it was contacted with a test oil sample containing the additive; the elastomer specimen was immersed in the test formulation for 96 hours at 121° C. (*Id.*)
7. Francisco tabulated the test data from Example 3 in Table 2. (*Id.* at col. 7, ll. 1-19.)
8. Kolosov described systems and methods for screening a library of material samples for rheological properties such as viscosity or elasticity. (Kolosov, Abstract.)
9. Kolosov taught that the invention could be used to test "most any flowable material," including lubricants. (*Id.* at 4:[0042] and [0043].)
10. Kolosov taught screening polymer samples, which could be homogeneous or heterogeneous or could comprise one or more polymer components. (*Id.* at 4:[0044].)
11. Kolosov taught:

    The protocols for characterizing one or more samples can further comprise determining a property of interest from responses of the samples to a stimulus. The responses can be correlated to properties of interest. Such properties of interest include, without limitation, rheological properties such as viscosity, viscoelasticity (e.g., shear dependent viscoelasticity), shear thinning, yield, stress and the like. Other properties of interest may include, without limitation, density, melt index, thermal degradation, aging characteristics . . . . The correlation between a measured response and a determined property of interest can be based on mathematical models and/or empirical calibrations. Such correlation methods are known in the art.

    (*Id.* at 8:[0065].)

12. Kolosov's Fig. 1 "illustrated a schematic system 10 for measuring of determining material properties such as viscosity, rheology, elasticity or the like of a combinatorial library of material samples." (*Id.* at 8:[0067].)
13. Kolosov taught that "[g]enerally, for determining properties of the samples 16, at least a portion of the probe 14 is contacted with a sample 16 and the stimulus generator 12 typically moves the portion of the probe 14 while the transducer 20 monitors the response of the sample 16. . . . Typically, the transducer 20, the stimulus generator 12 or both are in communication with a computer sub-system 23 … for manipulating data." (*Id.* at 8:[0068].)
14. Kolosov's computer sub-system 23 received and stored data on the tested samples, and could be employed to command system components. (*Id.*)
15. Kolosov's claim 19 defines a method of screening a library of materials "wherein the library of samples include rubber sheet or sample of predetermined shape." (*Id.* at 13.)

Principles of Law

A rejection for obviousness must include "articulated reasoning with some rational underpinning to support the legal conclusion." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize

that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.* at 417. *See also*, *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) ("Accommodating a prior art mechanical device that accomplishes that goal to modern electronics would have been reasonably obvious to one of ordinary skill . . . . Applying modern electronics to older mechanical devices has been commonplace in recent years.").

Analysis

A. The rejection over Francisco and Chaffee

Claim 1 defines a method "under program control." For purposes of this invention, "program control" means the equipment used is automated and controlled by a microprocessor or other computer control device. (FF2.) The explanation of the rejection at Ans. 4-5 does not identify evidence that either Francisco or Chaffee described or suggested using automated equipment controlled by a microprocessor or other computer control device.

The Examiner argues that "automation of a manual activity is not patentable," *citing* MANUAL OF PATENT EXAMINING PROCEDURE § 2144.04(III) and *In re Venner*, 262 F.2d 91, 95 (CCPA 1958). (Ans. 9.) The Examiner's argument is unpersuasive because the rejection failed to lay an evidentiary foundation for it. Two deficiencies prevent us from affirming the rejection.

First, an obviousness rejection must include "articulated reasoning with some rational underpinning to support the legal conclusion." *KSR*, 550 U.S. at 418. The rejection did not articulate a reason to automate Francisco's (or Chaffee's) manual method. Neither the MPEP nor *Venner*

supersedes the requirement to make a finding that the scope and content of the prior art included a reason to modify a known method.

Second, MPEP § 2144.04 states that "if the facts in a prior legal decision are sufficiently similar to those in an application," a rejection may use the rationale used by the court. In *Venner*, prior art provided the means by which the manual process could be automated. *See Venner*, 262 F.2d at 96 (the "Venner et al. [prior art] together with the Nichols and Wagner patents show the automatic means to initiate withdrawal of a core from a piston molding apparatus; this would preclude applicants from predicating patentability on this feature."). The facts in evidence supporting the Francisco/Chaffee rejection on appeal do not suggest a means to automate Francisco's manual process, and are therefore not sufficiently similar to the *Venner* fact pattern to use that rationale.

B. The rejection over Francisco and Kolosov

We agree with the Examiner that Francisco taught a method for screening lubricating oil compositions for compatibility with elastomers that differed from Appellants' method in that Francisco's method was not "high throughput" and "under program control." We agree with the Examiner that Kolosov disclosed a high throughput screening method under program control for a variety of testing protocols, and a combinatorial library comprising sample data stored on a programmed controller. We agree with the Examiner's finding that

> [o]ne of ordinary skill in the art would have been motivated to use the computer controlled robot of Kolosov et al with the elastomer testing protocol of Francisco et al because of the need to reduce time in analyzing samples and it would be especially

> attractive to rapidly test a plurality of samples on a common substrate, as noted by Kolosov et al in paragraph 0005.

(Ans. 6.) The Examiner concluded that it would have been obvious for one of ordinary skill in the art at the time the claimed invention was made "to use the computer controlled robot of Kolosov et al with the elastomer testing protocol of Francisco et al." (*Id.*) We agree.

Appellant contends that Kolosov's method is limited to flowable materials, thus excluding elastomers. The Examiner disagreed, finding that Kolosov's screening of flowable samples was only "one particular embodiment." We agree that Kolosov explicitly said that screening flowable samples was "one particular embodiment." Appellant has not shown that adapting Kolosov's device to Francisco's protocol was beyond the level of skill in the art. In this regard we note that Kolosov's claim 19 recites using a rubber sheet as the sample.

Because Kolosov taught the method was generally applicable, we find that Kolosov fairly suggested applying program control to Francisco's elastomer material. For the reasons given in the Answer, we agree that the evidence supports the Examiner's conclusion that it would have been obvious to automate Francisco's method by adapting the Kolosov system. Appellant objects that Kolosov provided "no guidance on how to screen lubricating oil samples for compatibility with elastomers, under program control." (Reply Br. 6.) However, Francisco taught the testing protocol, and we agree with the Examiner that adapting Kolosov's device would have been within the skill in the art.

Claim 33 defines a library comprising data for a plurality of different lubricating oil compositions stored on a programmed controller. Francisco

taught such data in its Table 2. Appellant argues that Kolosov did not suggest storing such data on a programmed controller (App. Br. 13), but we agree with the Examiner that the combined teachings of the two references would have suggested the stored data library to one of ordinary skill in the art (Ans. 15).

CONCLUSIONS OF LAW

The rejection over Francisco and Chaffee did not articulate a reason supported by evidence to automate Francisco's manual process.

The rejection over Francisco and Kolosov articulated a reason supported by the evidence to automate Francisco's manual process.

SUMMARY

We reverse the rejection of claims 1-3, 5-9, 15, 16 and 21 under 35 U.S.C. § 103(a) as unpatentable over Francisco and Chaffee; and

we affirm the rejection of claims 1-3, 5-9, 11-14, 17-21 and 33-35 under 35 U.S.C. § 103(a) as unpatentable over Francisco and Kolosov.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

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